Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR			
L8	l7 same (heparin or inositol or fucoidin or syndecan or betaglycan or perlecan or dextran or pentosan or mesoglycan or polyvinyl)	1	L8
L7	(wound adj5 heal?) or (treat? adj5 wound)	310	L7
L6	L4 same polylysine	1	L6
L5	L4 and polylysine	46	L5
L4	(attach? or adher? or adhesion) same (wound adj5 heal$)	927	L4
L3	L2	0	L3
DB=USPT; PLUR=YES; OP=OR			
L2	inhibit? adj5 chemiluminesc?	0	L2
L1	(chemilumenesc? or lucifer?) and (chlorine or Cl)	1	L1

END OF SEARCH HISTORY

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L8: Entry 1 of 1 File: USPT Mar 21, 2000

DOCUMENT-IDENTIFIER: US 6039940 A
TITLE: Inherently antimicrobial quaternary amine hydrogel wound dressings

Brief Summary Paragraph Right (28):
The cationic quaternary ammonium polymers of this invention possess inherent microbiocidal properties and are absorbent and non-irritating to the skin or open wounds. The absorbency of the hydrogel means that, when applied as a wound dressing, fewer dressing changes are necessary, the wound heals faster and a moist healing environment is maintained. The polymers are radiation tolerant and can be sterilized by such means. Because the polymers are inherently microbiocidal, the wound is retained in a sterile environment to promote healing. Further, because the polymers are polycationic, it is possible that healing is accelerated because blood clotting is promoted due to the cationic polymer neutralizing polyanionic clotting inhibitors such as the naturally occurring anionic polysaccharide heparin.

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L9: Entry 66 of 74 File: USPT Jul 17, 1984

DOCUMENT-IDENTIFIER: US 4460642 A
TITLE: Water-swellable composite sheet of microfibers of PTFE and hydrophilic absorptive particles

Brief Summary Paragraph Right (5):
Great Britain Pat. No. 1,454,055 discloses a preparation, such as a bandage, for treating a fluid-discharging skin surface, which comprises a water-insoluble hydrophilic macromolecular swellable material such as crosslinked dextran, carboxymethyldextran, starch or hydroxyethyl starch for absorbance of low molecular weight constituents of blood plasma in admixture with a dermatologically suitable carrier. The swellable material may be dextran, or a derivative thereof, and the carrier may comprise fibrous material. This patent discloses no fibrous materials having submicron diameters.

Brief Summary Paragraph Right (6):
A crosslinked dextran derivative which is sold by Pharmacia of Sweden under the tradename "Debrisan", is primarily used as a wound treating powder. Pharmacia's trade literature on Debrisan.RTM. asserts the following advantages for the use of the powder: "continuously absorbs wound exudate and bacteria, cleanses the wounds, prevents crust formation, reduces inflammation and oedema and does not cause sensitization". The trade literature which states that no side effects have been reported also gives the following limitations on the product: "(1) do not leave Debrisan.RTM. for more than 24 hours on wounds with a very low exudation rate as it may dry and form a crust which may be difficult to wash off, (2) occlusive dressings may lead to maceration of skin around the wound under treatment, (3) when deep infected wounds are treated, care must be taken to wash Debrisan.RTM. from the depths of the wound, and (4) no side effects have been reported. Warning: Debrisan.RTM. spillage can render surfaces very slippery. Clear spillages promptly." Thus, it appears that although the dextran derivatives have excellent absorptive capacities, there are problems associated with their use relating to moisture loss, adhesion, contamination of the wound, and handling hazards.

Detailed Description Paragraph Right (8):
Because of its high absorptive capacity, the sheet may be used to cleanse the surfaces of contaminated or infected wounds. Such wounds include traumatic wounds, cuts, lacerations and abrasions, burns, indolent wounds, pressure sores, and ulcers which may be contaminated with foreign matter, dead tissue, and micro-organisms such as bacteria and fungi. For this cleansing purpose dressings of the instant invention may be removed and replaced as often as necessary to remove contaminating material, and then a final similar dressing may be left in place undisturbed on the cleansed surface until the wound heals. Alternatively, if the wound is too deep to heal spontaneously, after cleansing the wound surface in the above manner, it may be grafted. It is to be noted that some of the cleansing action is brought about by the activities of cells, (e.g., leukocytes and macrophages) in the tissues of the body, aided by appropriate conditions of hydration and oxygen availability brought about by the dressing. The breakdown products are removed by the absorbent in the dressing, thus completing the cleansing process.

Detailed Description Paragraph Right (9):
The hydrophilic absorbent may be water-swellable particles such as alginic acid, polyacrylate-cellulose graft copolymer, collagen, chitin, chitosan, dextran,

carboxymethyldextran, starch, modified starch, hydroxyethyl starch, hydrolyzed polyacrylonitrile, starch-methacrylonitrile polymer, polyacrylamide, hydrolyzed polyacrylamide (Separan.RTM.AP-30, Dow Chemical Co.), carboxymethylcellulose, and derivatives or mixtures of the aforementioned materials. The preferred materials are crosslinked dextran derivatives having a water absorptive capacity between 2 g and 10 g of water per gram of dry material, phosphate-crosslinked carboxymethylated starch, phosphate-crosslinked hydroxypropyl substituted starch, designated MS-2 in TABLES III and IV below (the hydroxypropyl group being randomly attached to the 2-, 3-, or 6-carbon of the glucose monomer by an ether linkage), carboxylate-ester crosslinked carboxymethylated polyglucose, and similar materials. These are preferred for wound dressing uses.

Detailed Description Paragraph Right (16):
A moderate amount of water-swellability, for example up to ten times the volume of the absorbent particulate, is preferred for wound dressing applications using the composite sheets of the invention. It has now been found that durable, tear-resistant, water-swellable composite sheets have a variety of additional uses. In some of the additional uses preferred particulates will vary in order to maximize selected properties. Tear-resistant, water-swellable composite sheets are surprisingly useful for drying non-aqueous solvents. For example, gasoline saturated with water at room temperature in the tank of an automobile or airplane frequently precipitates ice when exposed to below freezing temperatures. Simple filtration through the composite sheets of the invention that contain up to 90 percent by weight highly-water swellable particulates removes enough water to preclude such precipitation. It has been found that it is possible to remove substantially all traces of water from organic fluids such as hydrocarbons, chlorinated solvents, toluene, diethyl ether, tetrahydrofuran and a variety of other non-water miscible solvents by passing the solvents over or through composite sheets of the invention. Preferred particulates for this application are cross-linked dextrans, starch modified by branch polymerization with acrylic acid, cross-linked sulfonated polystyrenes, cross-linked acrylate ester-acrylic acid copolymers, and the polyacrylamide sold as Biogel.RTM.. Preferred sheets used for such drying applications surprisingly retain their physical integrity for extended use, and greatly reduce the use of human time, and therefore cost of drying.

Detailed Description Paragraph Right (19):
Fifty grams of Sephadex.RTM.G-25-80 (crosslinked dextran derivative, particle size 20-80 microns, available from Sigma Chemical Co., St. Louis, MO) and 50 gm of water were mixed in a one-liter beaker. The Sephadex.RTM. absorbed all the water and swelled from 60 cc to a total volume of 210 cc. Sixty grams of water and 20 grams of polytetrafluoroethylene (PTFE) resin dispersion (Teflon.RTM.30B, Dupont) were mixed and added to the swollen Sephadex.RTM. in 10 ml portions with intermittent vigorous stirring. After these ingredients had been thoroughly mixed, a semi-coherent material was formed with enough physical integrity to allow the entire contents to be removed from the beaker as a single mass.

Detailed Description Paragraph Right (39):
It is concluded that the composite dressing that incorporated beads of dextran polymer in a matrix of polytetrafluoroethylene fibrils provided beneficial effects on donor site wounds.

Detailed Description Paragraph Table (3):
TABLE III

Absorption of Water by Particulates in PTFE Microfiber Composite Sheets Sample Percentage composition of the particulates Percent ml sol'n absorbed Sheet major component minor component PTFE per ml of film

1

Vermiculite (85%) 15 0.51 2 Kaolin (85%) 15 0.57 3 Zeolite (85%) 15 0.53 4 CaCO.sub.3 (60%) 40 0.40 5 Sephadex.sup.a G-25-80; 20-30 (85%) 15 2.22 6 Sephadex.sup.a G-25-150; 50-150 (60%) 40 1.76 7 Sepharose.sup.b 4B-2000 (75%) 25 1.30 8 Chitin.sup.c (85%) 15 1.85 9 Chitosan.sup.d (85%) 15 1.68 10 Alginic Acid.sup.e (85%) 15 2.86 11 1% Crosslinked sulf'd PS (70%) 30 25. 12 Super Slurper.sup.f (57%) 43 20. 13 Acid form of Super Slurper .RTM. (85%) 15 1.67 14 Film 13 resoaked in aqueous KOH 7.67 15 Film 14 resoaked in water 93. 16 DEAE-Sephadex.sup.g (50%) 50 39. 17 Super Slurper (SS) (43%) Kaolin (21%) 36 6.3 18

Super Slurper (33%) Kaolin (33%) 33 2.3 19 DEAE-Sephadex (33%) Kaolin (33%) 33 4.0 20 Biorad .RTM. X8 (37%).sup.h Alginic acid (38%) 23* 2.8 21 Sulf'd PS.sup.l ; Biorad X-1.sup.i (40%) Surlyn .RTM..sup.k (40%) 20* 1.71 22 above film resoaked in KOH 1.69 23 MS.sup.-2.spsp.j (85%) 15 1.5 24 Film 23 soaked in aqueous KOH 4.7 25 Film 24 soaked in water 6.8 26 Collagen (85%) 15 1.2

.sup.a Sephadex .RTM. = Dextran (1,4-linked polyglucose) crosslinked with epichlorohydrin. .sup.b Sepharose = Agarose in the form of gelled beads .sup.c Chitin = polyN--acetylglucosamine .sup.d Chitosan = polyglucosamine .sup.e Alginic acid = poly(anhydro-d-mannuronic acid) i.e. (C.sub.6 H.sub.8 O.sub.6).sub.x from Algin .sup.f Super Slurper .RTM. (SS) = poly(acrylic acid) grafted onto corn starch .sup.g DEAESephadex = Diethylaminoethyl modified Sephadex .sup.h Biorad X8 = sulfonated polystyrene crosslinked with 8% divinylbenzene .sup.i Biorad X1 = sulfonated polystyrene crosslinked with 1% divinylbenzene .sup.j MS2 = phosphate crosslinked starch modified with hydroxypropyl groups (obtained from CollettMarwell Hauge a/s, Asker, Norway). This material can be prepared as follows: the starch is reacted with propylene oxide according to the procedure of U.S. Pat. No. 2,733,238; the product is isolated and then crosslinked with sodium trimeta-phosphate according to the procedure of U.S. Pat. No. 2,801,242. .sup.k Surlyn = copolymer of polyethylene and acrylic acid (E. I. DuPont de Nemours) .sup.l PS = polystyrene

CLAIMS:

2. The composite sheet material according to claim 1 wherein said hydrophilic absorbent particles are alginic acid, polyacrylatecellulose graft copolymer, collagen, phosphate crosslinked starch substituted with hydroxypropyl or carboxymethyl groups, chitin, chitosan, crosslinked dextran, crosslinked carboxymethyldextran, crosslinked diethylaminoethyl dextran, starch, hydroxyethyl starch, hydrolyzed polyacrylonitrile, starch-methacrylonitrile polymer, polyacrylamide, hydrolyzed polyacrylamide, cellulose, carboxymethylcellulose or derivatives or mixtures thereof.

3. The composite sheet material according to claim 1 wherein said hydrophilic absorptive particles are particles of a crosslinked dextran derivative.